SIEMENS

MAMMOMAT 1000/3000/3000 Nova - Opdima®

SP

Installation

Installation and Start-Up Instructions

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General

Depending on the serial number of your MAMMOMAT, complementary measures may have to be performed when installing Opdima®. Where necessary, the measures are described in these instructions. The following has to be carried out with all serial numbers:

- Installation of isolation board D707 (kit part No. 63 96 704) in the generator, if not already done in conjunction with installation of printer (option)
- The wall socket for the workstation power supply must be connected to the same branch circuit as the MAMMOMAT power supply
- This Installation and Start-Up Instruction is valid for Opdima® systems;

  - with SUN workstation part No. 64 30 453 / Ultra 10 from serial number 1201

MAMMOMAT with serial number lower than 2091

The following has to be carried out:

- Exchange of printed circuit board D702 (kit part No. 64 21 288) in the generator
- Upgrade of the MAMMOMAT software (generator and stand) to V 2.2 (part No. 62 98 769, if the version to be upgraded is lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96)
- Performance of “Stereotactic biopsy attachment update” according to MAMMOMAT 3000 Installation and Setting Instructions Update Kit for Stereotactic Biopsy Attachment RX B7-230.033.02. ..

MAMMOMAT with serial number within the interval 2091-3241

The following has to be carried out:

- Exchange of board D702 (kit part No. 64 21 288) in the generator
- Upgrade of the MAMMOMAT software (generator and stand) to V2.2 (part No. 62 98 769, if the version to be upgraded is lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96)

MAMMOMAT with serial number within the interval 3242-5199

The following has to be carried out:

- Upgrade of the MAMMOMAT software (generator and stand) to V2.2 (part No. 62 98 769, if the version to be upgraded is lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96)

Training of customer support engineers

Due to the technology used in this equipment, setup, service and maintenance may only be carried out by a customer support engineer who has attended a training workshop or has participated in at least one installation.

Text emphasis

⚠DANGER	**DANGER indicates when there is an immediate danger that leads to death or serious physical injury.**
⚠WARNING	**WARNING indicates a risk of danger that may lead to death or to serious physical injury.**
⚠CAUTION	**CAUTION used with the safety alert symbol indicates a risk of danger that leads to slight or moderate physical injury and/or damage to property.**
NOTICE	**NOTICE used without the safety alert symbol indicates a risk of danger that if disregarded leads or may lead to a potential situation which may result in an undesirable result or state other than death, physical injury or damage to property.**
NOTE	**NOTE contains information provided with special emphasis to facilitate proper use of the equipment or proper execution of a procedure, i.e. hints, tips.**

Documents required

- Supplement to the Instructions for Use MAMMOMAT 3000 - Opdima® (included in the Opdima® delivery)
- MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions (included in the Opdima® delivery)
- MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® DHHS Maintenance Instructions (included in the Opdima® delivery)
- MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® Measurement Certificates (included in the Opdima® delivery)
- MAMMOMAT 1000/3000/3000 Nova - Opdima® Planning Guide
- Installation Instructions for Isolation P.c. Board D707, RX B7-120.031.04. .. (where applicable)
- MAMMOMAT 1000/3000/3000 Nova Installation and Start-Up Instructions
- MAMMOMAT 1000/3000 Nova Wiring Diagram
- MAMMOMAT 3000 Installation and Setting Instructions Update Kit for Stereotactic Biopsy Attachment (where applicable)
- Technical Information TI 219

CD-ROMs required

- Ultra 10 Service Manual, part No. 65 27 670 (included in the Opdima® delivery)

Meters and appliances required

- Protective ground wire tester (44 15 899 RV090)
- Service PC (e.g. Siemens-Nixdorf PCD 3NSX/20 or similar) with connecting cable, PC to generator (part No. 99 00 440 RE999)
- Stereo calibration phantom (included in the delivery) (part No.64 30 701)
- Acrylic plastic (PMMA) plates, four plates measuring 150 mm x 150 mm x 20 mm and one plate measuring 150 mm x 150 mm x 10 mm, part No. 85 49 438 and 97 88 423 respectively
- Resolution phantom with at least 10 line pairs per mm
- 4.5 cm PMMA

Tools required

- Standard installation tools
- Electric drill with 5 mm drill

Additional installation material required

- Extension mains cord with at least three outlets, of protective earth type

Start-up, DHHS and X-ray decree area of application

Notes on start-up

Opdima® is adjusted, programmed and tested in the factory, leaving only the connection to the on-site mains voltage, the functional tests and customer dependent adjustments to be performed.

Checking and recording for the area of application of the X-ray decree (§16 Germany)

An X-ray unit can only be put into operation if an acceptance test has been performed according to §16 RoeV. It is recommended that the responsible Customer Service Engineer is present to assist the person responsible for this acceptance test.

Checking and data recording in the USA

Maintenance measurements must be made according to the instructions in MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® DHHS Maintenance Instructions.

Sections

- Required labels
- Reproducibility
- Automatic exposure control (AEC)

The result must be recorded in the document MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® Measurement Certificates.

⚠**CAUTION**

The CCD camera is very sensitive to mechanical shocks and temperature changes. In the camera shock and temperature sensors are integrated.

Risk of damaging the equipment.

The camera has to be handled with extreme care.
When disconnected from the biopsy controller, the camera shall always be stored in the attaché case delivered with the system.
Do not touch the pins in the contacts of the camera.

The camera shall be used within 10−30° C.

The camera shall be transported or stored within 0−40° C.

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It is very important that any intervention in the equipment shall start with disconnecting it from the power supply with the main circuit breaker. To prevent accidental triggering of high voltage and radiation, set the switch S2 (SS) on board D702 to OFF (lower position, no triggering of the SS relay).

⚠CAUTION

Shut down the application software before switching off the power for the workstation (see Logout and turning off the workstation in Supplement to the Instructions for Use MAMMOMAT 3000 - Opdima®).

Switching off the workstation before the software has been closed down may cause damage to the files on the hard disc.

⚠WARNING

If the system is only switched off at the control panel or with S2/ D711 in the MAMMOMAT generator, line voltage will still be present at the generator line connection, line filter Z1, Z2, transformer T1, transformer T10 and board D711 (see MAMMOMAT 1000/3000 Nova Wiring Diagram).

Life-threatening electric shock hazard exists.

Disconnect mains cable and comply with the information on this page.

⚠WARNING

After shut-down of the system, there may still be about 380 V DC present on the intermediate circuit of the MAMMOMAT generator.

Life-threatening electric shock hazard exists.

The voltage level will be indicated by LED V24 on board D710. The voltage will drop to less than 30 V within about 3 minutes, the LED goes out at about 30 V.

⚠CAUTION

The boards contain electrostatic highly sensitive components requiring particular care in their handling.

Risk of damaging components.

Use ESD-equipment, ground prior to making contact and place the components on a conductive surface, see Technical Information TI 219.

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Scope of delivery

The following parts are always included in the delivery of your equipment:

- Technical Manual comprising information for installation, operation and service
- CCD camera with a fixed cable
- Biopsy controller with five cables and cable duct
- Workstation including:
  - power supply cable
  - network cable
  - monitor
  - keyboard
  - mouse
  - MO unit with one power supply cable and one data cable
  - Main unit including CD drive

If ordered, the following is delivered:

- Biopsy unit
- Compression plate for biopsy examination
- Printed circuit board D702
- MAMMOMAT software V2.2 or higher
- Isolation p.c. board D707 kit
- DICOM license key
- Workstation table
- Printer

Unpacking

General

NOTE	**Follow the directional marks on the box during transport, storage and unpacking.**

Workstation

The workstation is packed in a card board box which also contains technical documentation and CDs for application software and operating system*.

Biopsy controller, miscellaneous

The biopsy controller is packed in a card board box together with cables, miscellaneous installation material.

CCD camera

⚠CAUTION	**The CCD camera is very sensitive to mechanical shocks and temperature changes. In the camera shock and temperature sensors are integrated.** **Risk of damaging the equipment.** **The camera has to be handled with extreme care.** **When disconnected from the biopsy controller, the camera shall always be stored in the attaché case delivered with the system.** **Do not touch the pins in the contacts of the camera.**

The CCD camera is packed in an attaché case. Keep the case for future use.

Optional equipment and update kits

If optional equipment and/or update kits are ordered, these are packed in separate boxes.

*. Only needed if a software reinstallation is necessary (see MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions). Store the documentation and software CDs in a proper place for future service use.

General

Before starting the installation, a backup of the installation parameters of the MAMMOMAT has to be carried out.

1. Connect a PC to the MAMMOMAT and start the service program.
2. Select *Main menu => Backup => Copy installation area to disk => All*. This will store the installation parameters on the hard disk of the PC.
3. Select *Main menu => Backup => Copy installation area to floppy => All*. This will store the installation parameters on the service diskette.
4. Switch off the MAMMOMAT.

Sub-assemblies, overview

The components shall be placed according to the figure below.

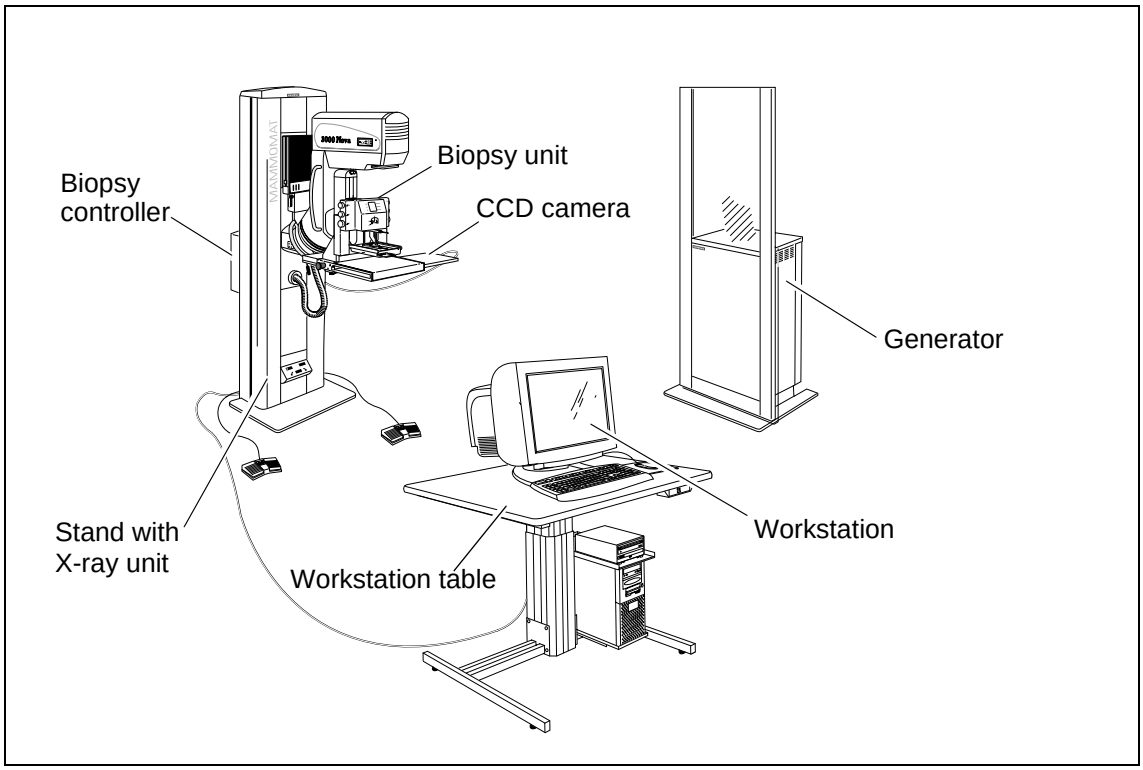


Fig. 1 MAMMOMAT 3000 Nova with digital biopsy and spot imaging system Opdima®

NOTE	**The workstation shall be placed at least 1.5 m from the object table of the stand.**

Removal of MAMMOMAT stand covers

MAMMOMAT stand with separate rear side covers

⚠WARNING

High voltage!
Life-threatening electric shock hazard exists.
Switch off the power to the system with the main circuit breaker.

Left rear side cover

1. Remove the screw (5/Fig. 2) at the top of the stand.
2. Pry loose the plastic strip (2/Fig. 2) using a screwdriver or similar tool.
3. Remove the screws (3/Fig. 2) and remove the cover (6/Fig. 2).

Right rear side cover

1. Remove the screw (1/Fig. 2), proceed as for the left side cover and remove the right side cover (4/Fig. 2).

Middle rear cover

1. Remove the two screws (7/Fig. 2) at the top of the stand.
2. Remove the cover (8/Fig. 2) by lifting it up.

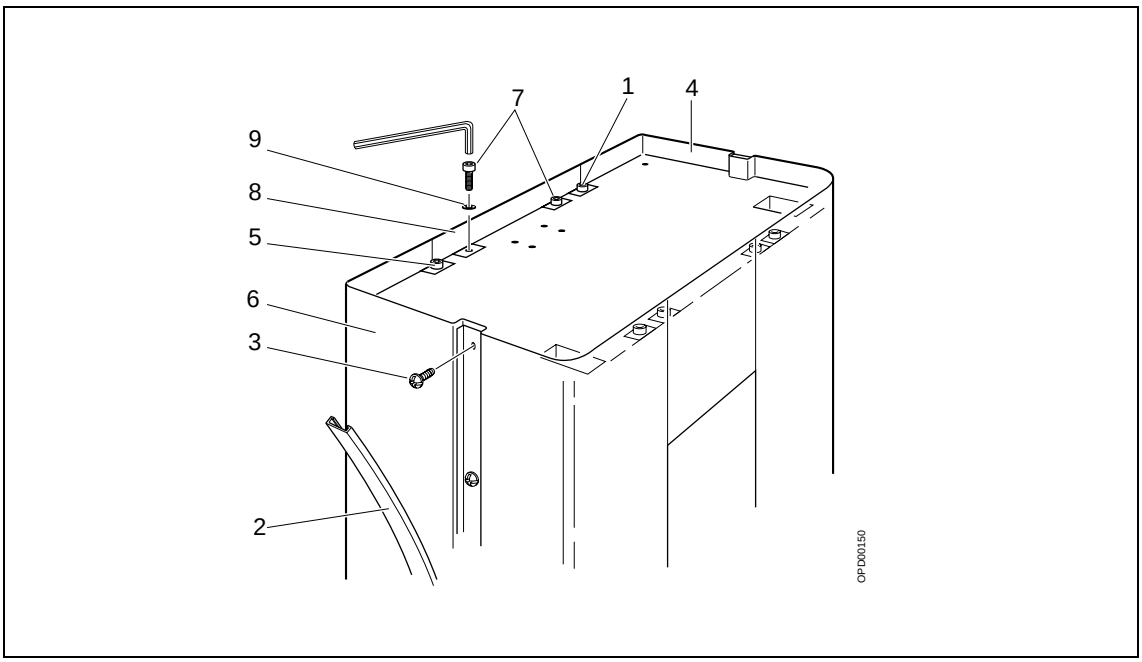


Fig. 2 Removal of covers

MAMMOMAT stand with single rear cover

⚠WARNING

High voltage!

Life-threatening electric shock hazard exists.

Switch off the power to the system with the main circuit breaker.

Rear cover

1. Remove the screws (1/Fig. 3) at the top of the stand.
2. Pry loose the plastic strips (2/Fig. 3) on both sides using a screwdriver or similar tool.
3. Remove the screws (3/Fig. 3) on both sides and remove the cover (4/Fig. 3).

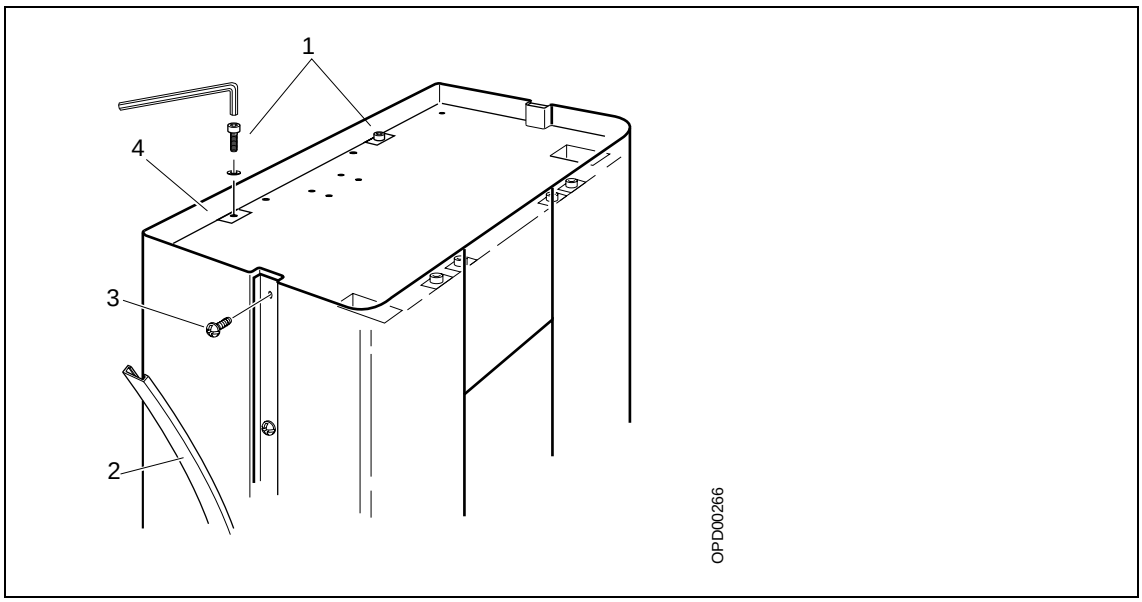


Fig. 3 Removal of covers

Installation of biopsy controller holders

The biopsy controller is attached to the rear cover of the stand. To install the holders proceed as follows:

1. Attach the two drilling templates (1/Fig. 4) included in this document on the inside of the rear cover according to Fig. 4. The template marked B shall be placed underneath the template marked A with no space between them. Make sure that the templates are centered and that the sides of the templates are parallel to the rear cover sides.
2. Drill five holes with a 5 mm drill in the rear cover according to the templates.
3. Install the three holders (2/Fig. 4) by using the nuts (3/Fig. 4).
4. Install the two standoffs (4/Fig. 4) by using the screws (5/Fig. 4) and the washers (6/Fig. 4).

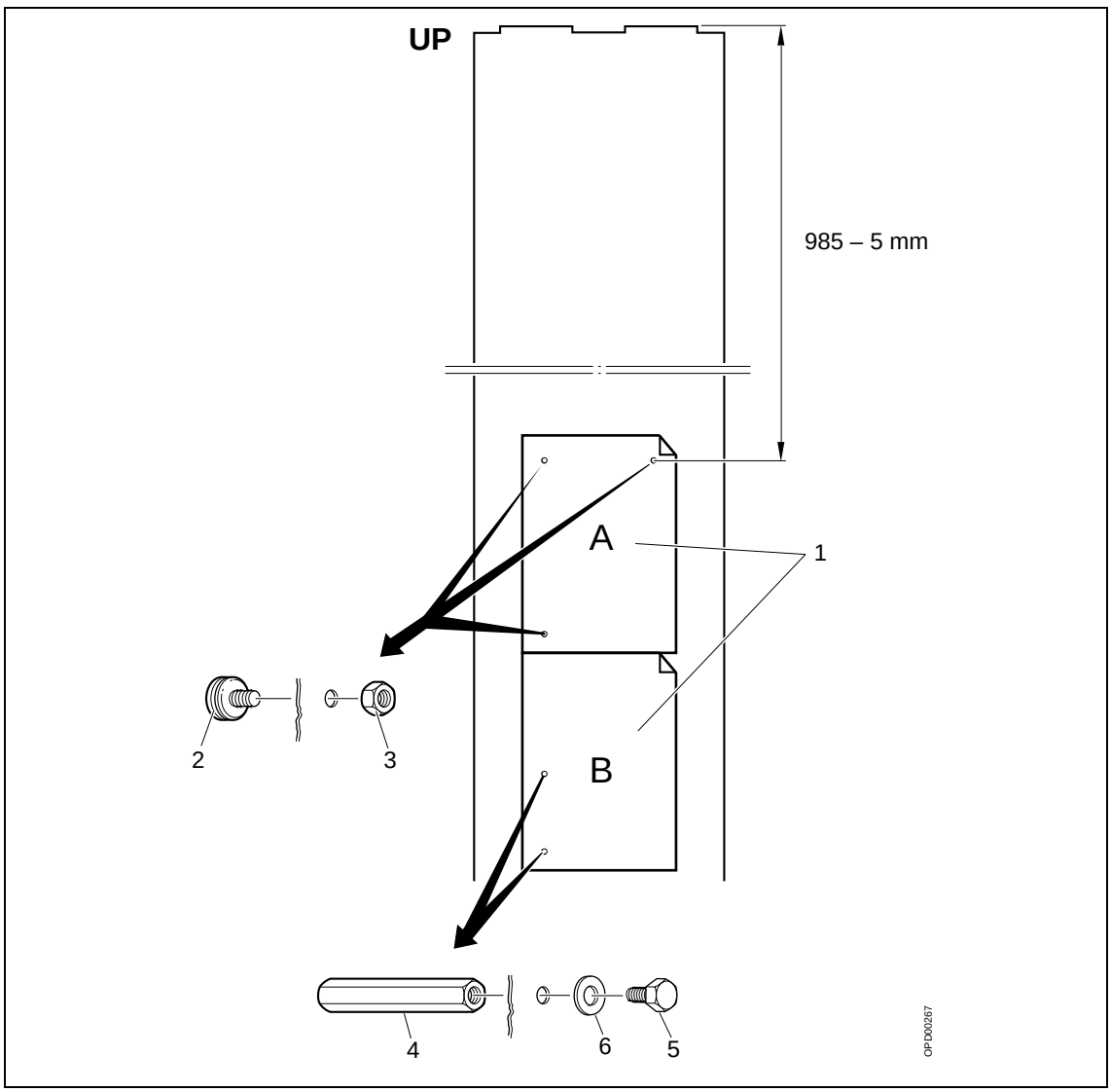


Fig. 4 Rear cover, from the back side

5. Install the rear cover (2/Fig. 5) on the stand and attach the biopsy controller (1/Fig. 5) to the holders. Switch on the power-on switch on the biopsy controller.

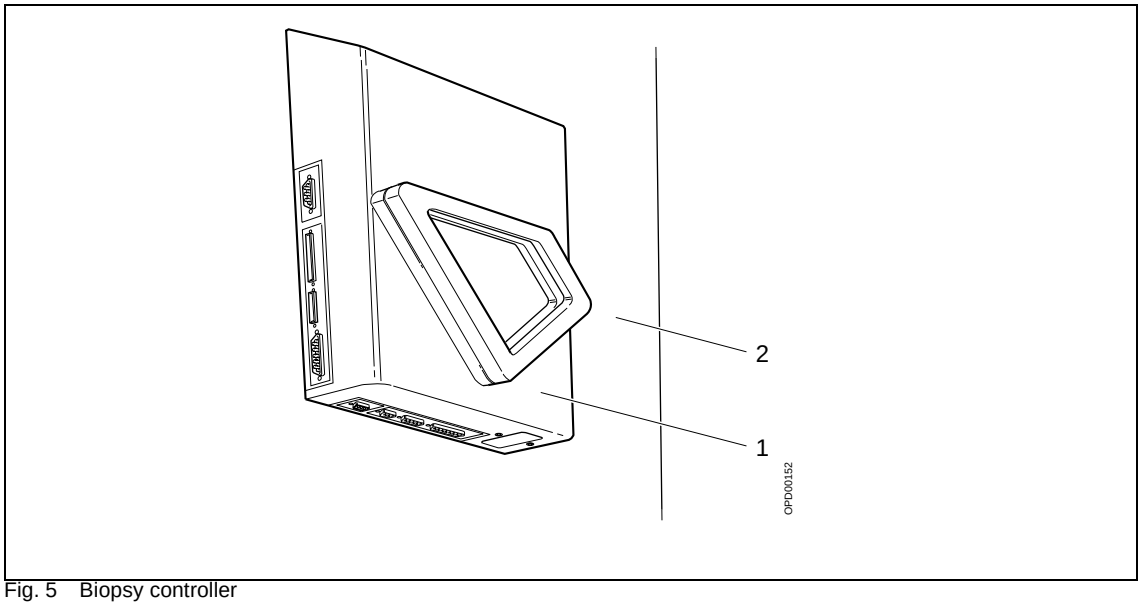


Fig. 5 Biopsy controller

Modification of MAMMOMAT stand

MAMMOMAT with serial number lower than 5200 must be updated with new software.

1. Replace the existing software on board D801 with the V2.2 (or higher) software.

NOTE	**If upgrading from a version lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96.**

Modification of MAMMOMAT generator

Replacing board D702

MAMMOMAT with serial number lower than 3242 must be updated with a new board D702.

1. Pry loose the plastic strips (1/Fig. 6), using a screwdriver or similar tool.
2. Remove the sixteen screws (2/Fig. 6) and remove the front cover (3/Fig. 6).

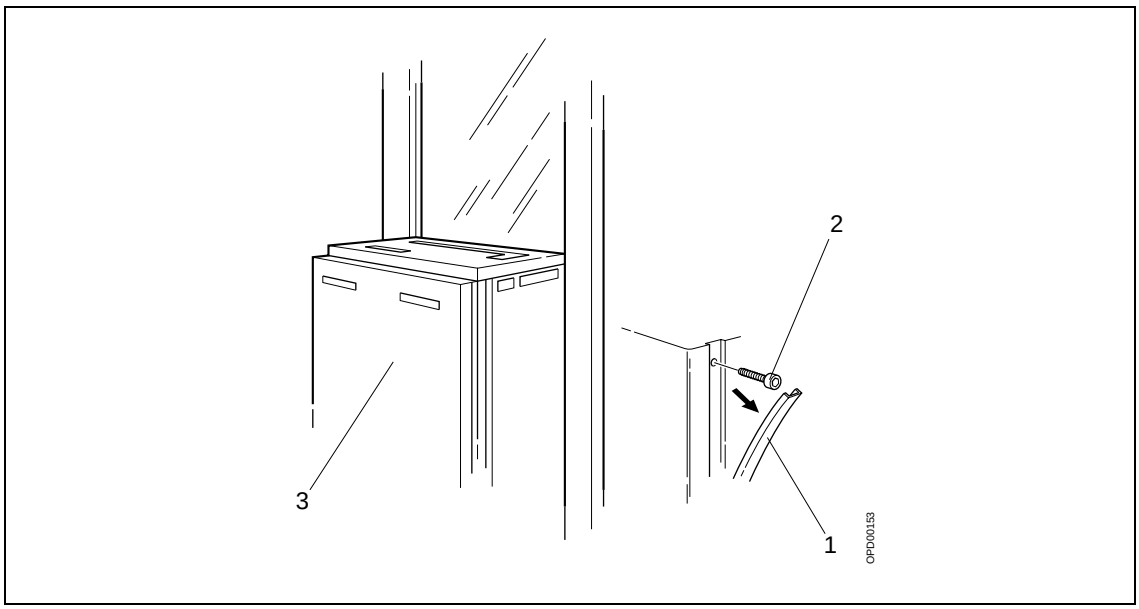


Fig. 6 Removal of generator front cover

3. Remove the board D702 in Fig. 7 from the generator.
4. Install software V2.2 (or higher) on the new board D702.
5. Install the new board D702 Fig. 7 in the generator.

NOTE	**If upgrading from a version lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96.**

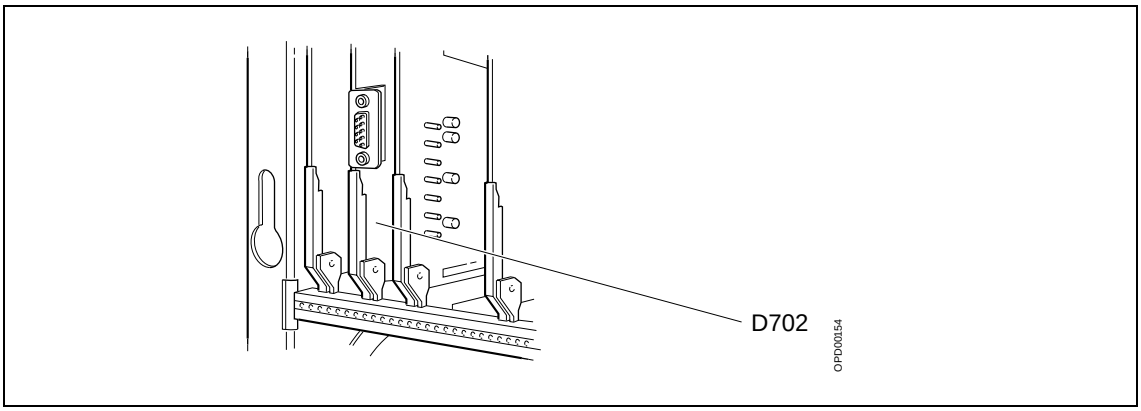


Fig. 7 Board D702

Replacing software

MAMMOMAT with serial number lower than 5200 must be updated with new software.

1. Replace the existing software on boards D740, D701 and D702 (if not already done in previous steps) with the V2.2 (or higher) software.

NOTE	**If upgrading from a version lower than V1.5, the AEC have to be upgraded, see Update Instruction, UI 001/96.**

Installing isolation board D707

If not already done in conjunction with installation of printer (option), an isolation board D707 (see Fig. 10) shall be installed. Install the board according to Installation Instructions for Isolation P.c. Board D707, RX B7-120.031.03. ...

Restoring installation parameters

If the software has been changed, the installation parameters have to be restored. Proceed as follows:

1. Switch on the MAMMOMAT. Install the service PC, (see Working with the Service PC in MAMMOMAT 1000/3000/3000 Nova Installation and Start-Up Instruction).
2. Start the service program with the new service diskette.
3. Select *Main menu => Backup => Copy disk to installation area => All*. This will copy the previously stored data from the hard disk to the installation area of the MAMMOMAT.
4. Select *Main menu => Configuration => Power* and note the values for all four focus.
5. Select *Main menu => Configuration => Anode* and enable/disable the W (tungsten) anode depending on the system configuration.

NOTE	**For serial numbers lower than 5000 the W anode should always be enabled.**

NOTE	**For serial numbers higher than 5000 it depends on what the customer ordered, if the W anode should be enabled or disabled. This can be checked by looking at the filter disk in the collimator. If the filter disk has only two filters and a lead strip mounted instead of a third filter, the W anode should be disabled.**

6. Select *Main menu => Configuration => Power*. Make sure that the values are identical to the values noted in step 3. above, if not correct them.
7. Select *Main menu => Configuration => Mischelaneous=> Cassette loaded switch* and set the switch to ON.
8. Switch off the MAMMOMAT with the main circuit breaker.

Connection of cables

The biopsy controller is the central unit for the cable connections. The cables are connected to the biopsy controller according to the figure below:

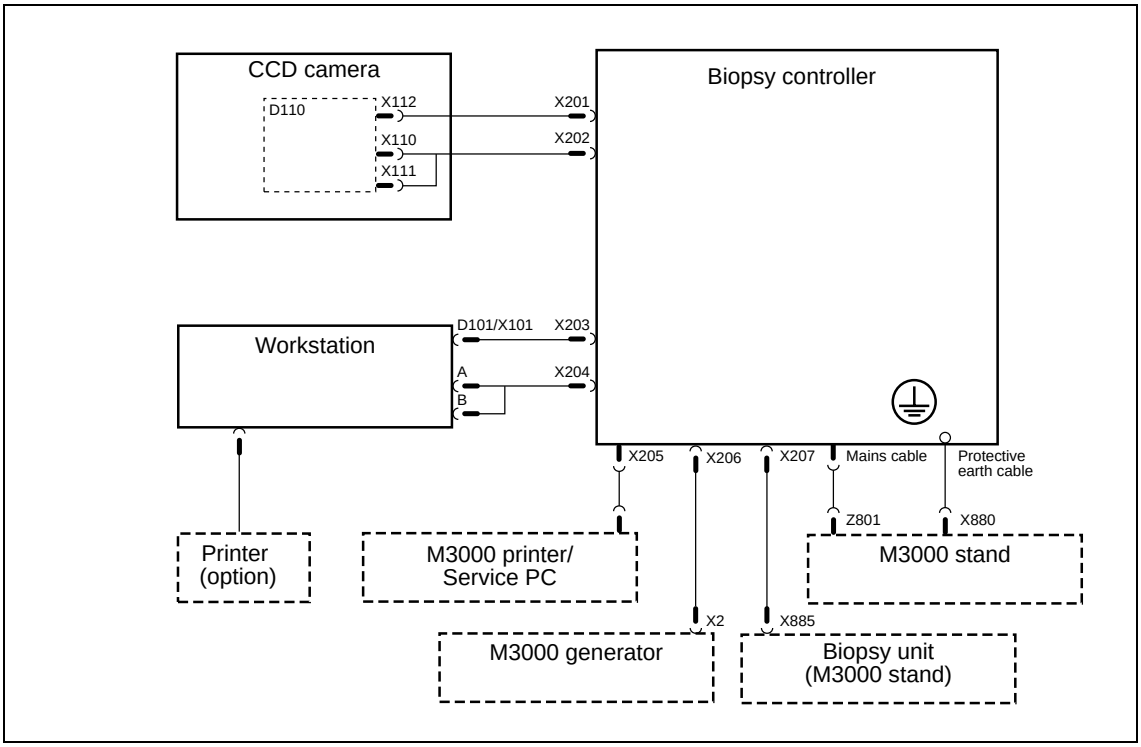


Fig. 8 Connection of cables

Cables to MAMMOMAT generator (and printer if present)

To lay the cables, proceed as follows:

1. Disconnect the printer cable (if connected) from the MAMMOMAT generator.
2. Open the cable duct between the generator and the stand and lift up the cable (if present).

   The cable will be reused to connect the printer to X205 on the biopsy controller.
3. Place the new cable with connectors marked X206 and X2 in the cable duct between the generator and the biopsy controller. Use compartment according to the figure below.

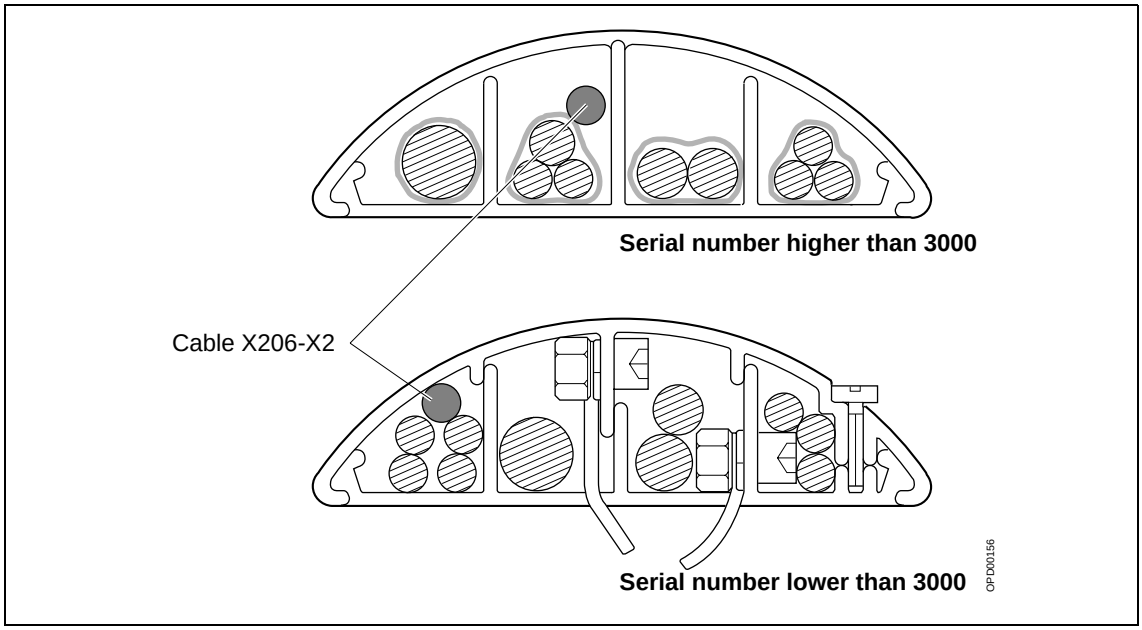


Fig. 9 Cable-duct compartments

4. Connect the cable to the MAMMOMAT generator connector X2 on D707, see Fig. 10.

NOTICE

For MAMMOMAT with a serial number >3000, the shielding of the cable shall be connected to the generator by means of the chassie ground clamp on the rear wall of the generator, below the D700 board. The shielding of the cable is accessible by cutting the two cable ties and removing the protective plastic sleeve. This is to ensure electromagnetic compatibility of the equipment.

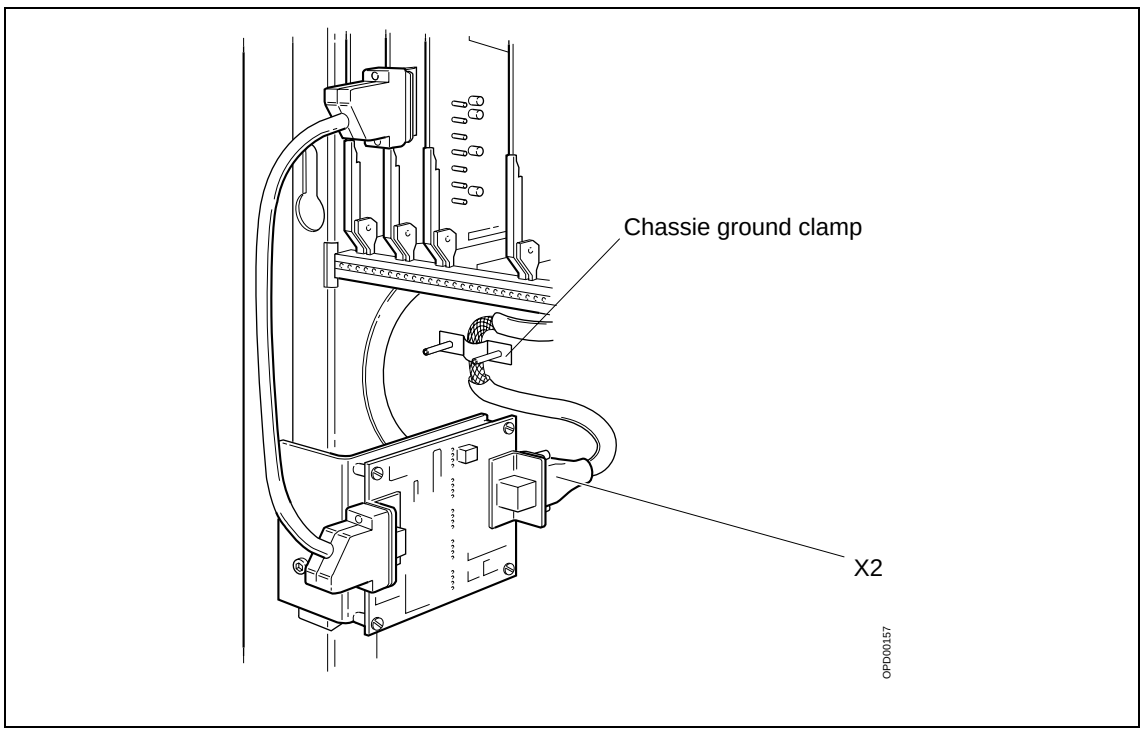


Fig. 10 Connection of cable to the generator

5. Connect the other end of the cable to the biopsy controller connector X206 in Fig. 11.

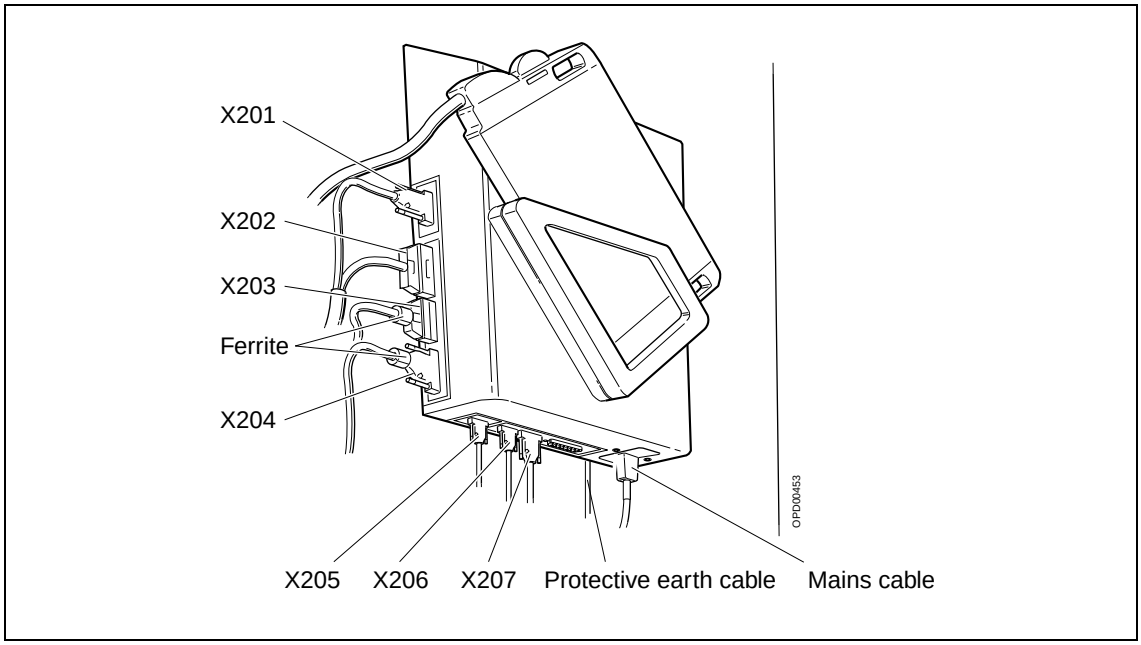


Fig. 11 Connection of cables to the biopsy controller

6. Connect the MAMMOMAT printer (if applicable) to X205 on the biopsy controller using the previously removed printer cable modified in the following way:

   If the shield braid of the printer cable is bare where it was connected to the generator bottom plate, the cable shall be insulated.

   If connected, eject pin 1 on the printer connector side and insulate.

7. Strain relieve the cable at the bottom of the stand.

NOTE	**The X205 connector is also used for connection of the service PC.**

NOTE	**The switch S3 (TEST) on PC Board D702 is not used with Opdima. The software will sense if a printer or a service PC is connected.**

8. Connect the printer to the same wall socket (branch circuit) as the workstation. The wall socket must be marked according to Fig. 24.
9. Close the cable duct cover and install the front cover of the generator.

Cables to biopsy unit

The cable with connectors marked X207 and X885 is laid between the biopsy controller and the biopsy unit connector of the MAMMOMAT stand.

1. Connect the cable to X207 on the biopsy controller and X885 on the stand, see Fig. 12 (serial number higher than 3000) or Fig. 13 (serial number lower than 3000).

NOTICE

The evaluation unit can not be used with Opdima.

If an evaluation unit is connected to the MAMMOMAT this must be disconnected at X885.

Power connection

NOTICE

The evaluation unit can not be used with Opdima.

If an evaluation unit is connected to the MAMMOMAT, the power connection of the evaluation unit must be disconnected at the stand.

The mains cable supplies the biopsy controller with 230 V AC from the stand. Together with the mains cable a protective earth cable shall be installed.

The connection between the biopsy controller and the stand can be made in two ways depending on MAMMOMAT serial number:

- Serial number higher than 3000: biopsy controller mains connector to MAMMOMAT 3000 connector Z801, see Fig. 12
- Serial number lower than 3000: biopsy controller mains connector to MAMMOMAT connector X881, see Fig. 13

1. Connect the cables, mains cable and protective earth cable, to Z801 or X881 on the stand.

   The brown cord (1/Fig. 12) to Z801-1, the blue cord (2/Fig. 12) to Z801-2 and the green-yellow cord (3/Fig. 12)to X880-4 for MAMMOMAT serial number higher than 3000. For MAMMOMAT serial number lower than 3000, connect according to Fig. 13. Strain relieve the cable with the supplied strain relief clamp.

2. Connect the three-pole connector of the mains cable to the biopsy controller, see Fig. 11.

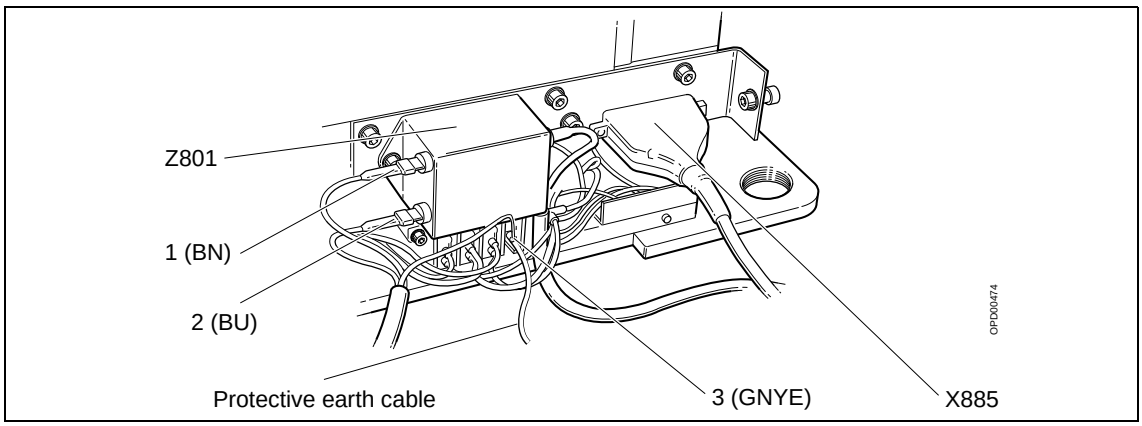


Fig. 12 Connection of mains cable, protective earth cable and X885, serial number higher than 3000

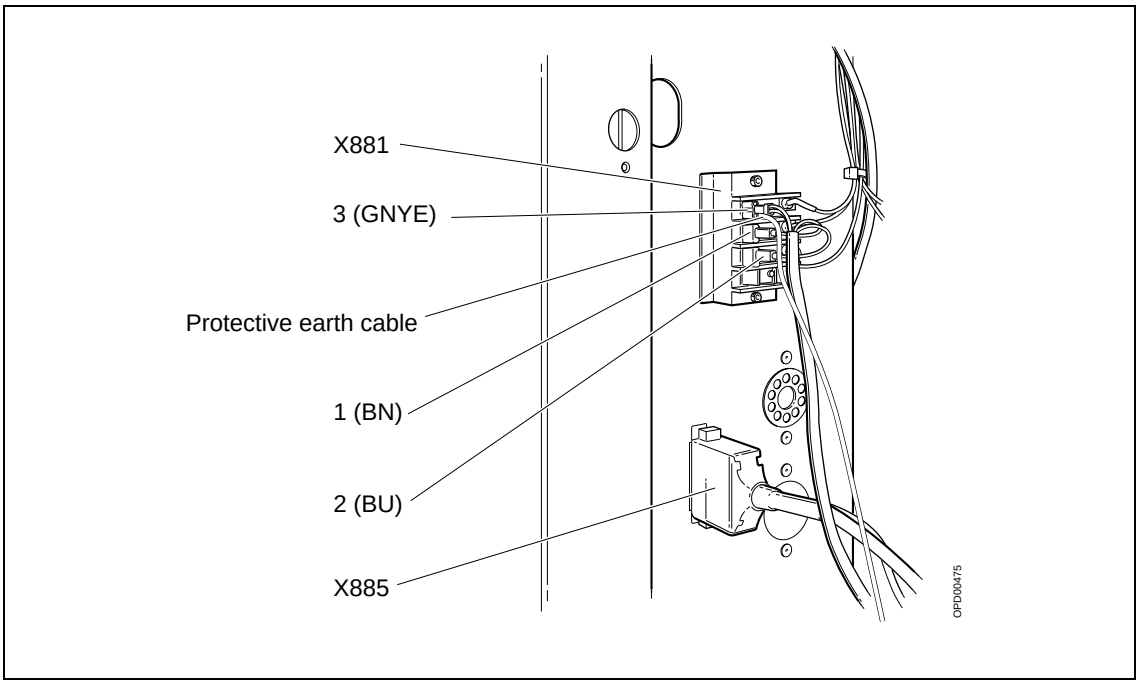


Fig. 13 Connection of mains cable, protective earth cable and X885, serial number lower than 3000

Cables to CCD camera

The CCD camera including cable with connectors marked X201 and X202 is connected to the biopsy controller.

1. Connect the cable to X201 and X202 on the biopsy controller, see Fig. 11.

⚠CAUTION

Sensitive electronic equipment!

Risk of damaging the camera.

Do not touch the pins in the contacts of the CCD camera.

2. Remove the screws (1/Fig. 14) and remove the cover (2/Fig. 14) of the object table arm.

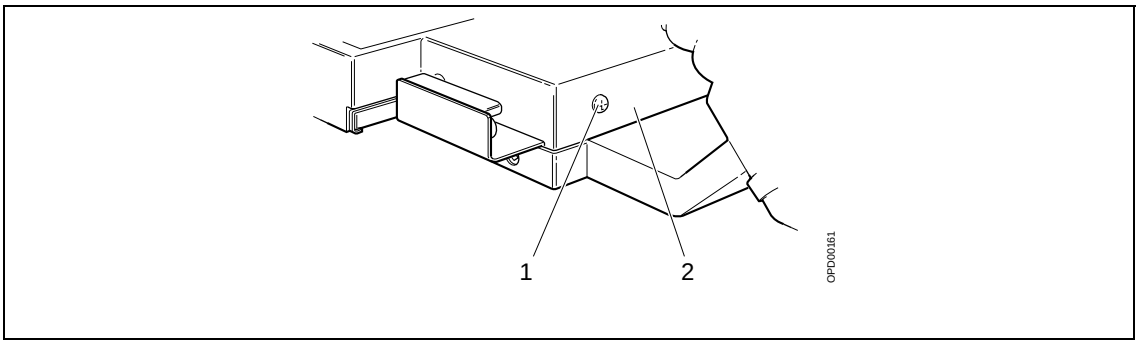


Fig. 14 Object table arm before installation

1. Install a new thread (1/Fig. 15).

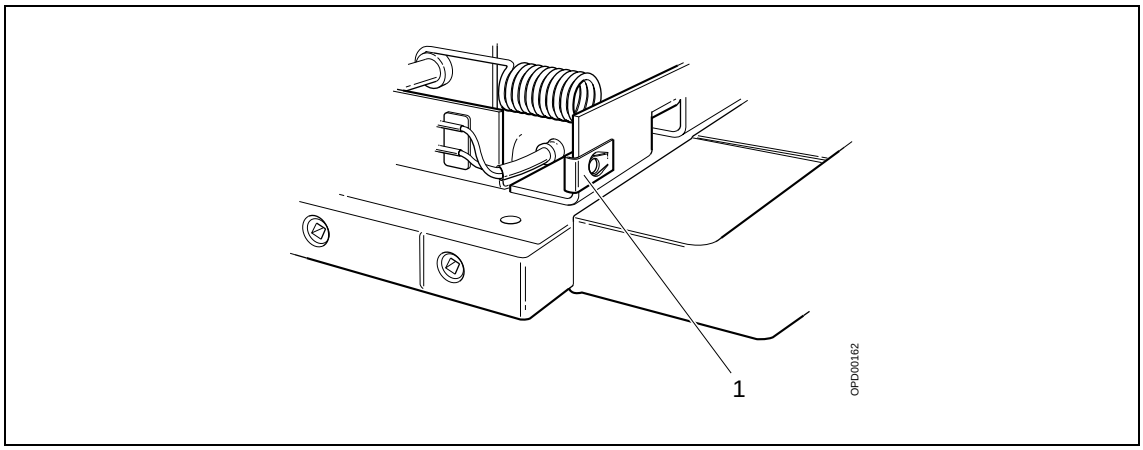


Fig. 15 Installation of thread

2. Install the holder (1/Fig. 16) with the pull relief device, using included Allen screws (2/Fig. 16).

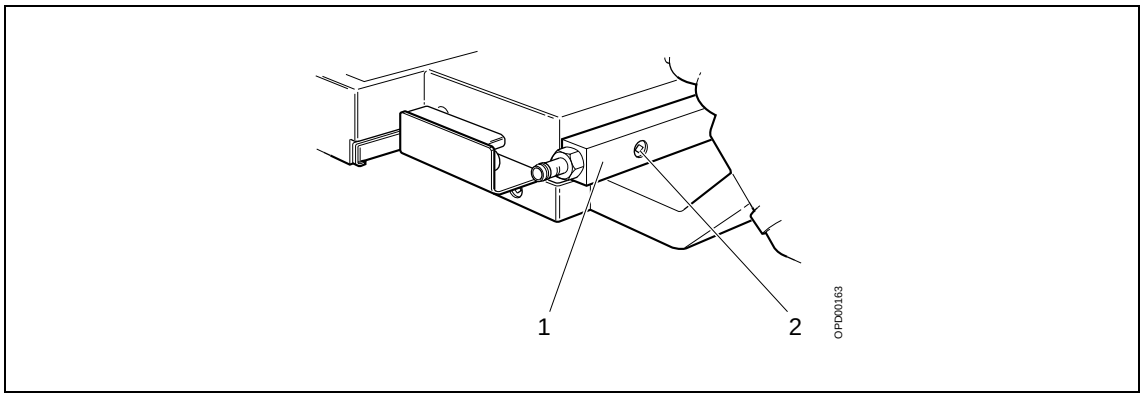


Fig. 16 Object table arm after installation

Installation of cable duct

Four cables are laid from the bottom of the biopsy controller in a cable duct to the cable outlet cover (3/Fig. 17). To install the cable duct on the rear side of the stand proceed as follows:

1. Attach the cable duct (2/Fig. 17) to the rear cover by removing the protective strips from the attached Velcro strips and place the duct flush with the biopsy controller (1/Fig. 17). Secure the cable duct to the two standoffs (5/Fig. 17) with the delivered screws and washers.

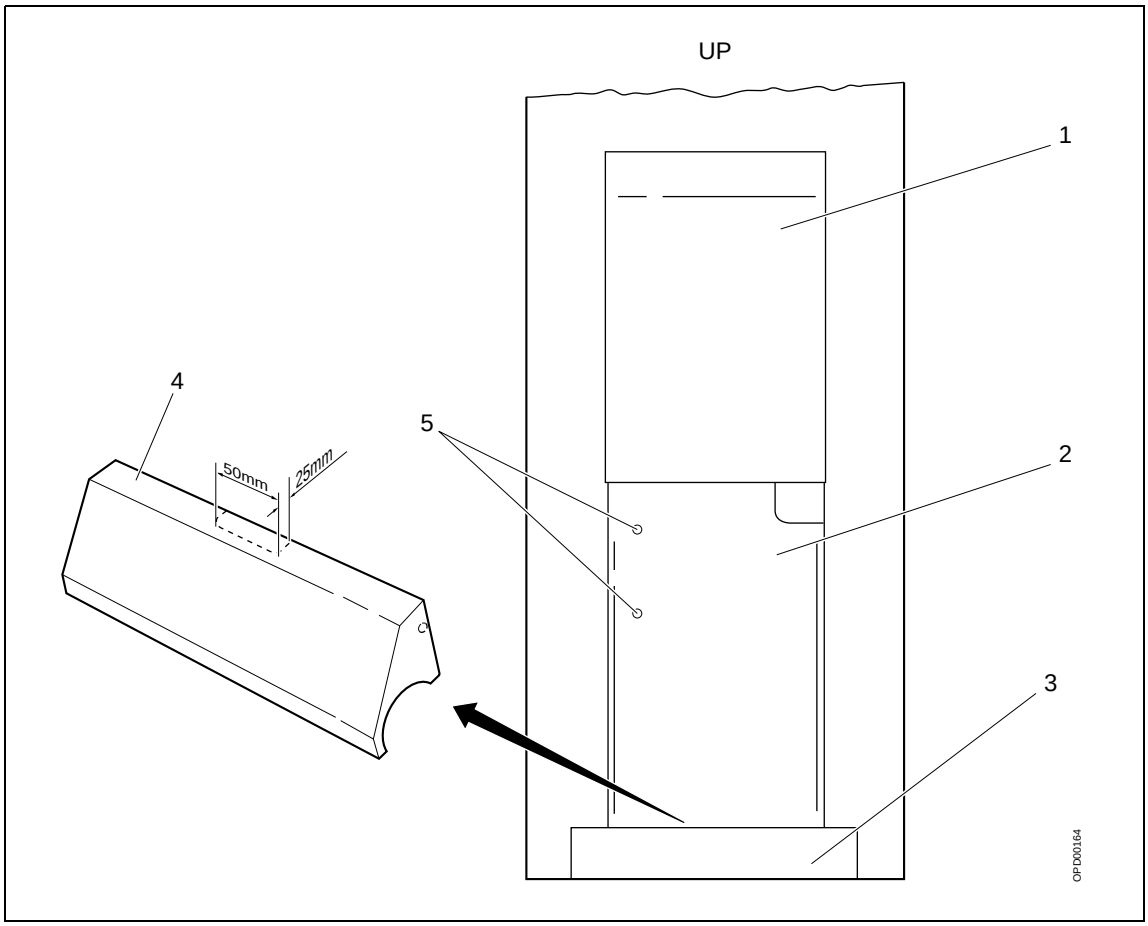


Fig. 17 Cable duct

Modification of cable outlet cover

To allow the cables to pass through the cable outlet cover, the cover has to be modified according to the following:

1. Cut an opening centrally on the cable outlet cover (4/Fig. 17). The opening should be approximately 50 x 25 mm.
2. Attach the supplied plastic strip around the opening of the cable outlet cover (4/Fig. 17).
3. Install the cable outlet cover (4/Fig. 17).
4. Mount the previously removed stand covers.

Installation of workstation

Preparing the workstation table (option)

The workstation table (option), a motorized vertically adjustable table, shall be used to put the workstation components to the Opdima® system on. The vertical adjustment device includes a transformer, which is not mounted on delivery.

⚠CAUTION

The workstation table must not be overloaded.

Any additional equipment is added at own risk and the maximum load of 80 kg must not be exceeded.

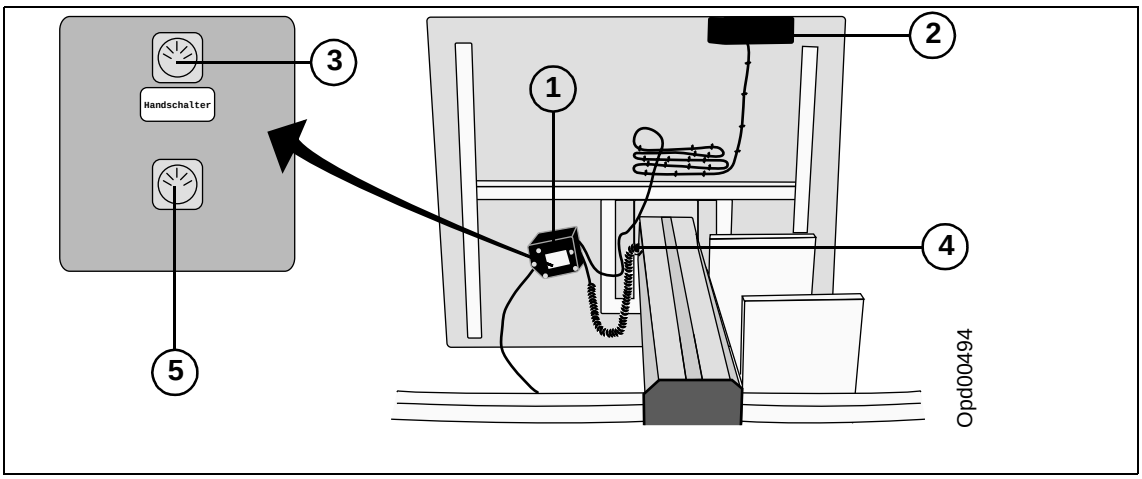


Fig. 18 Transformer

1. Remove the screws on the underside of the tabletop and use them when mounting the transformer (1/Fig. 18).
   Place the transformer so that the connectors are turned to the column.
2. Connect the cable from the control unit (2/Fig. 18) for the vertically adjustment to the connector marked “Handschalter” (3/Fig. 18).
3. Connect the cable from the motor (4/Fig. 18) for the vertically adjustment to the other connector (5/Fig. 18).

4. Place the workstation table outside the patient environment of safety reasons. Patient environment is determined by IEC 60601-1-1 as 1.5 m away from the patient.

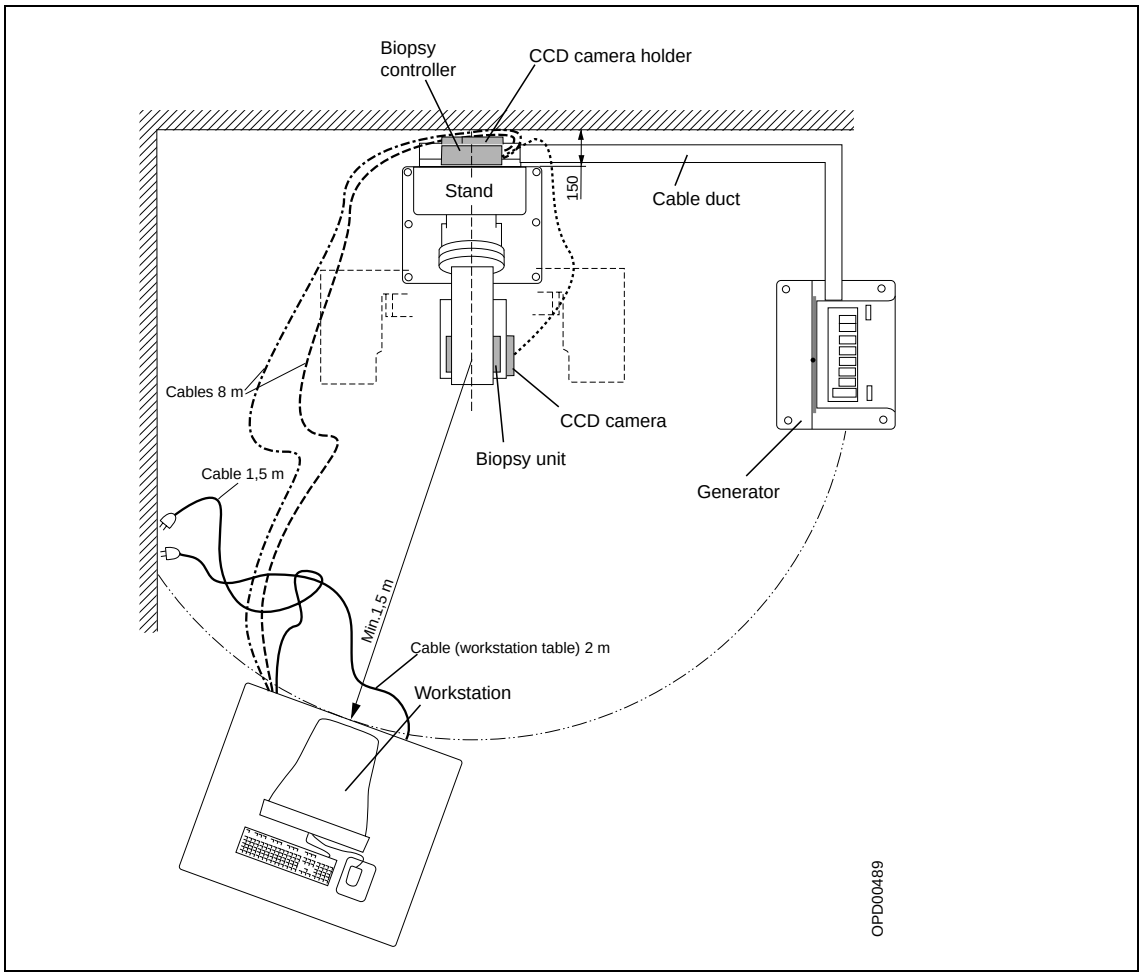


Fig. 19 System site overview

NOTE **There must be enough space around the workstation table so that it safely can be vertically adjusted .**

5. If the workstation table stands on an uneven floor, it can be adjusted with the adjustable screws on the framework.

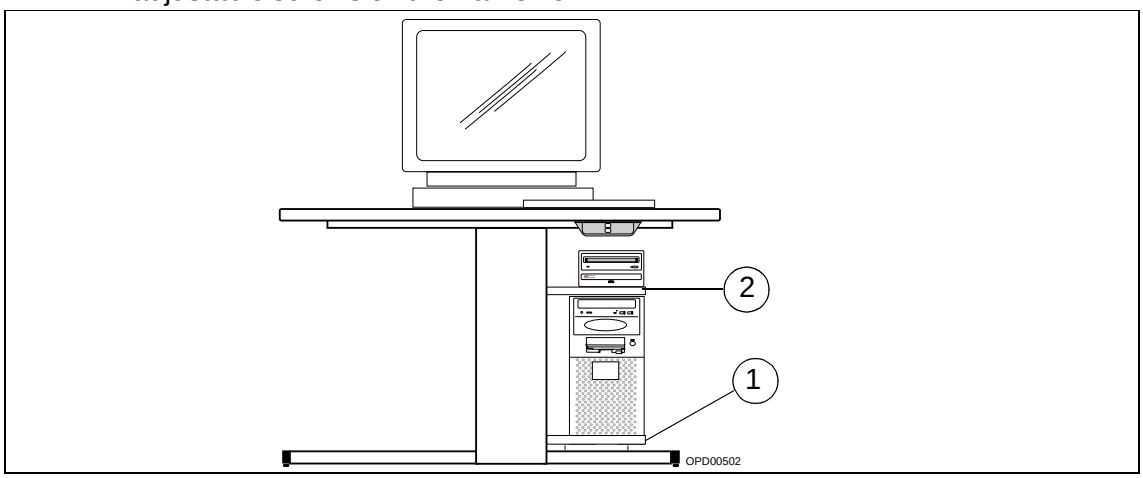


Fig. 20 Shelves

6. Place the monitor, the keyboard and the mouse on the tabletop. Make sure that all the equipment is within the edges of the tabletop.
7. Let the cables from the monitor, the keyboard and the mouse pass through the hole at the back of the tabletop.
8. Place the main unit to the right on its shelf (1/Fig. 20).
9. Mount the MO unit shelf close to the main unit (2/Fig. 20).
10. Place the MO unit to the right on the shelf (2/Fig. 20).

Connecting the workstation

1. Connect workstation cable marked X203 to the biopsy controller connector X203, see Fig. 21, and the other end (X101) of the cable to the workstation connector (10/Fig. 25).

⚠CAUTION	**Connecting the cable to the wrong connector may cause severe damage to the equipment.**

2. Attach ferrite on the cable on the biopsy controller side, see Fig. 21.

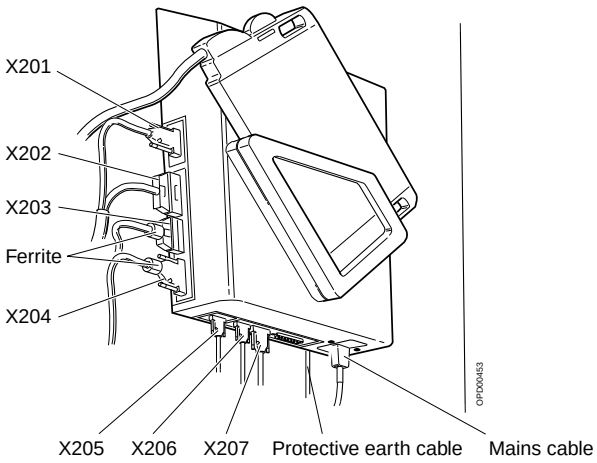


Fig. 21 Biopsy controller

3. Connect the workstation cable marked X204 to the biopsy controller connector X204 in Fig. 21 and the other end of the cable to the workstation connector A (6A/Fig. 25) and B (6B/Fig. 25).
4. Attach ferrite on the cable on the biopsy controller side, see Fig. 21.
5. Mount the touch protection over the connectors X203 and X204.
   -Place the plastic plate (1/Fig. 22) behind the connectors X203 and X204.
   -Place the plastic cover (2/Fig. 22) on the other side of the connectors.
   -Fasten the plastic screws (3/Fig. 22).

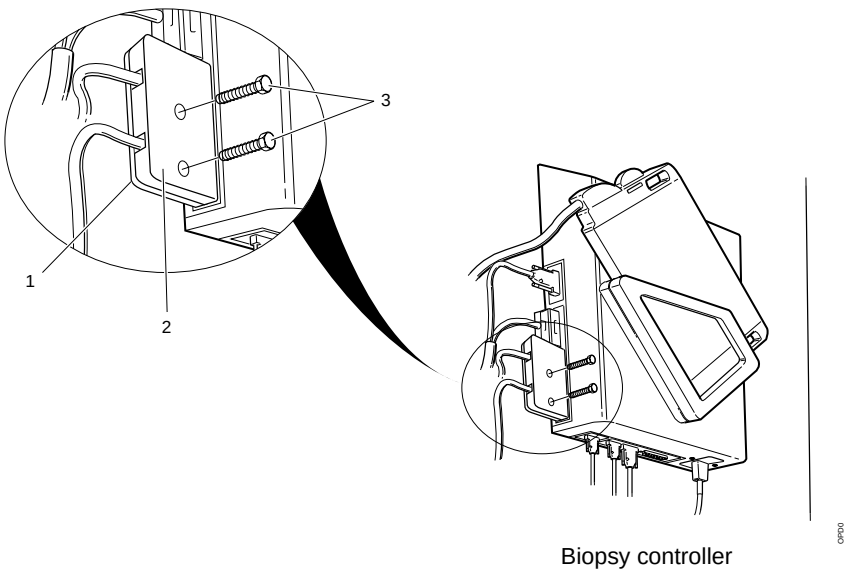


Fig. 22 Mounting the touch protection

6. Connect the MO unit SCSI cable to the workstation SCSI connector (9/Fig. 25).
7. Connect the MO unit cable to one of the two connectors of the MO unit. Fit the terminator to the other connector of the MO unit.
   For switch settings, SCSI ID and termination see Ultra 10/Ultra 1 MO unit in Mammomat 1000/3000/3000 Nova - Opdima® Service Instructions.

⚠CAUTION

Make sure that the SCSI cables are properly connected and fixed to the units and that the cable is not bent too much just behind the MO unit. Also, check that the MO unit is terminated correctly.

If disregarded, this might generate a lot of problems e.g. failure to write images to MO disk, corrupted MO disk or corrupted hard disk.

8. Connect the mouse to the keyboard.
9. Connect keyboard and mouse (5/Fig. 25).
10. Connect monitor cable to the workstation connector (11/Fig. 25).
11. Connect Ethernet cable (7/Fig. 25).
12. Mark the wall socket connected to the same branch circuit as the MAMMOMAT (Fig. 23) with label according to Fig. 24.

The power distribution to the system is shown in Fig. 23.

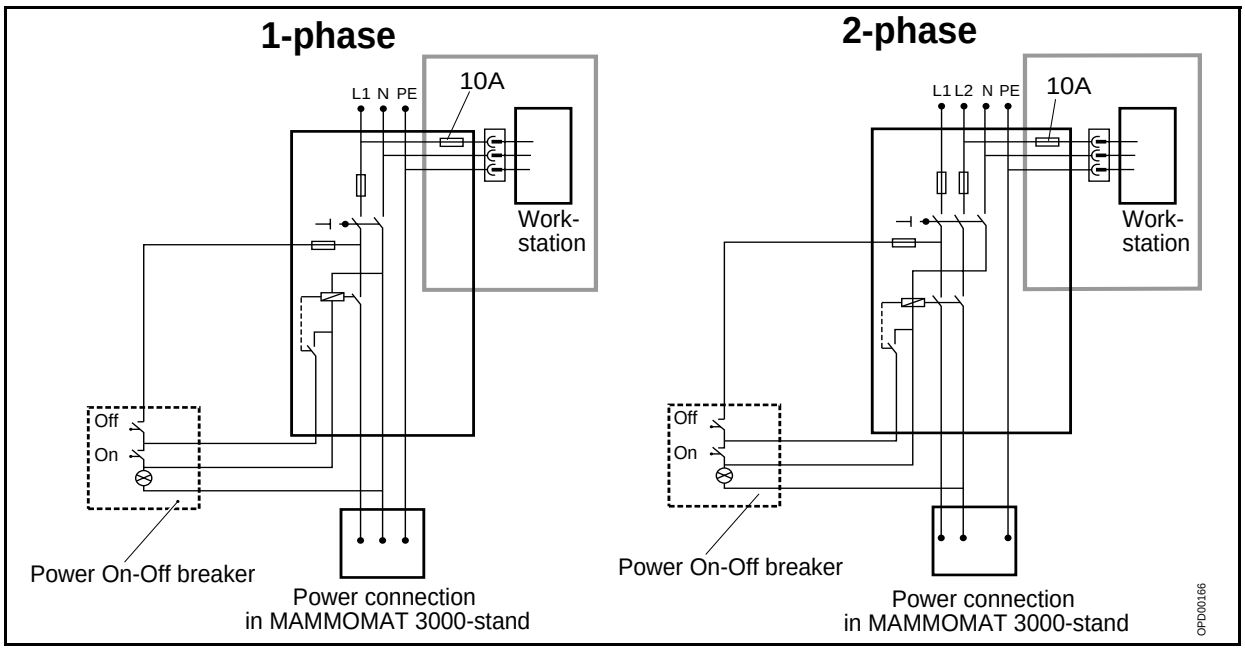


Fig. 23 Power distribution

13. Ensure the line voltage selector switch (2/ Fig. 25) is set to the appropriate setting: 115V or 230V.

⚠CAUTION	**Plugging a 115V power cord into a 230V connector will severely damage the system.**

14. Connect the AC power cords of the main unit, the monitor, the MO unit, the local Opdima® printer (if present) and the MAMMOMAT printer (if present) to the wall socket marked with label.

It is advisable to use an extension cord with at least three outlets.

⚠CAUTION	**The workstation and the printer must be grounded to the same potential as the MAMMOMAT.** **Connect the wall socket for the workstation and printer power supply to the same branch circuit as the MAMMOMAT power supply.** **(The workstation table can be connected to any branch circuit.)**

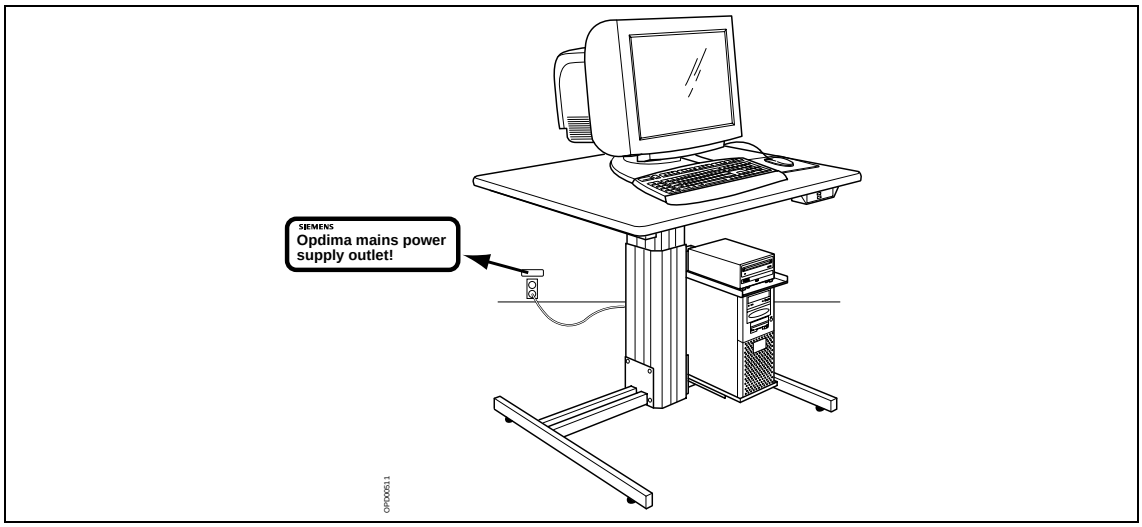
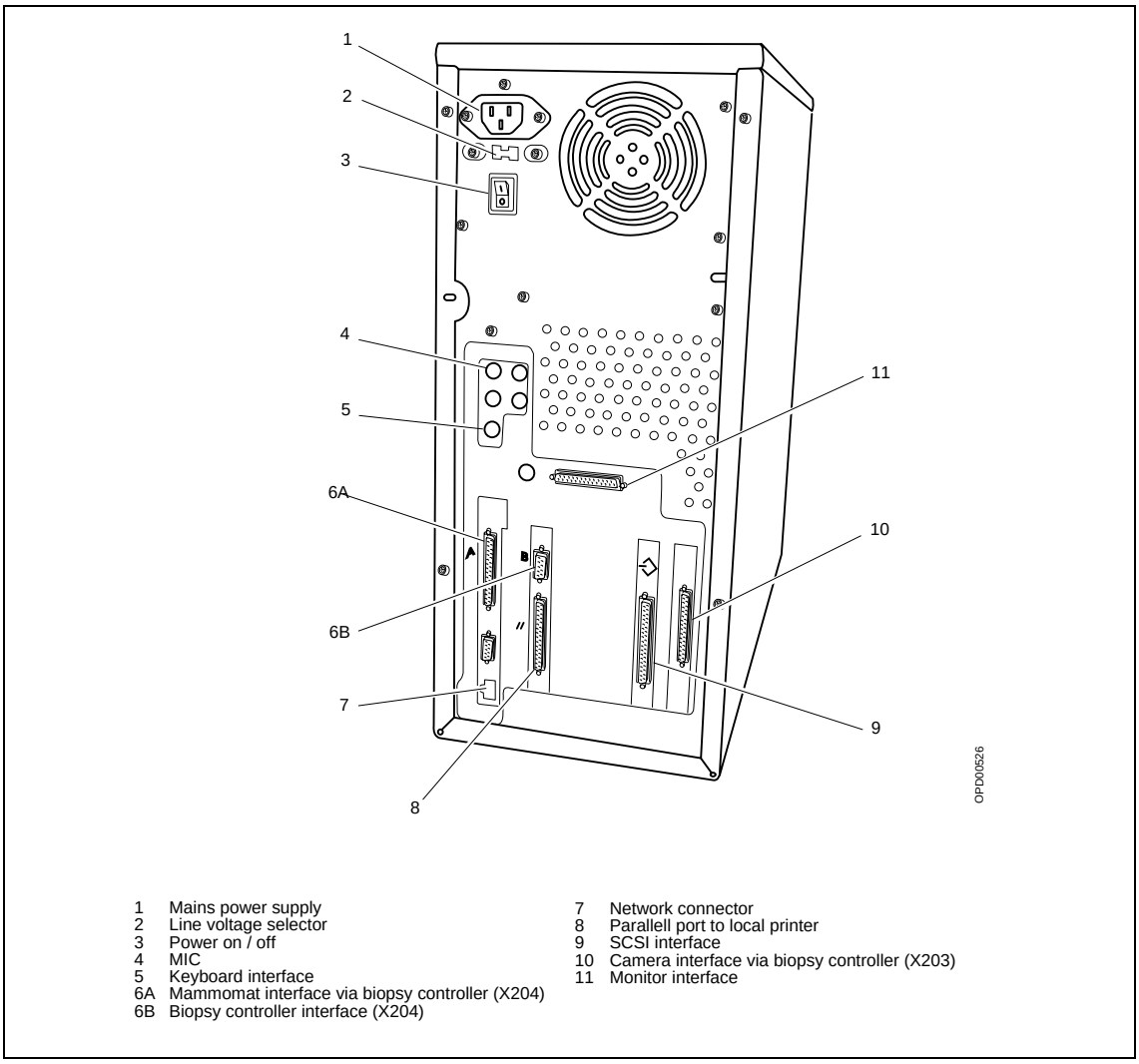


Fig. 24 Mains marking label



1 Mains power supply
2 Line voltage selector
3 Power on / off
4 MIC
5 Keyboard interface
6A Mammomat interface via biopsy controller (X204)
6B Biopsy controller interface (X204)
7 Network connector
8 Parallell port to local printer
9 SCSI interface
10 Camera interface via biopsy controller (X203)
11 Monitor interface

Fig. 25 Workstation main unit connectors

Connecting the workstation to the network

The Opdima workstation can be connected to a network, partly for the use of DICOM and also for networked printers.

1. Connect one end of the network cable (included in the delivery) to the workstation.
2. Connect the other end of the network cable to a network socket.
3. Log in with the user name “service”. The password is obtained from Siemens Service Centre.
4. Press the Service button in the mode selection dialog, see Selection of mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
5. Press the Advanced service button in the service dialog, see Use of Advanced service functions in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
6. In Advanced service configure the network parameters, see Network settings in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

   For physical limitations of the network see Mammomat 1000/3000/3000 Nova - Opdima® Planning Guide.

Installation of Opdima printer (option)

Stand alone Opdima system:

When the Opdima system is stand alone (not connected to a network) it is possible to install a Codonics NP-1660 or NP-1600 printer to Opdima® as a stand alone printer connected to the network connector.

NOTE	**It is also possible to connect a stand alone postscript printer to the parallel or network connector of the workstation, see Use of printer setup in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.**

The following equipment is needed:

- Codonics printer NP-1660 or NP-1600
- Crossover network cable

Proceed as follows to install the printer:

1. Connect one end of the network cable to the workstation (9/Fig. 25).
2. Connect the other end of the network cable to the printer.
3. Connect the mains cable of the printer to the wall socket marked with label, see Fig. 24.

⚠CAUTION	**The printer must be grounded to the same potential as the MAMMOMAT.** **Connect the printer power supply to the same branch circuit as the MAMMOMAT power supply.**

4. Set the printer IP address to 10.10.10.2 see the User’s Manual for the Codonics NP-1660 or NP-1600.

5. Select Scaled in printer setup in the advanced service dialog, see Stand alone Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Networked Opdima system:

When the Opdima® system is networked it is possible to configure the system to print to a printer connected to the network or a local postscript printer connected to the parallel interface of the workstation.

NOTE	**It is also possible to connect a stand alone postscript printer to the parallel connector of the workstation, see Select printer in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.**

Proceed as follows to install the network printer:

1. Add access to the network printer in the advanced service dialog, see Networked Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
2. Select printer in the advanced service dialog, see Networked Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Strain relieving the cables

If the workstation table (option) is used with the Opdima system, the cables from the workstation components and from the MAMMOMAT must be strain relieved by cable clamps at the back of the MO unit shelf according to the figure below.

- To ensure that the cables have enough length for the vertical adjustment, let the workstation table be in its highest possible position when strain relieving the cables.
- Use cable ties to arrange the cables in an organized way and make sure that the cables can run without a risk of getting caught.

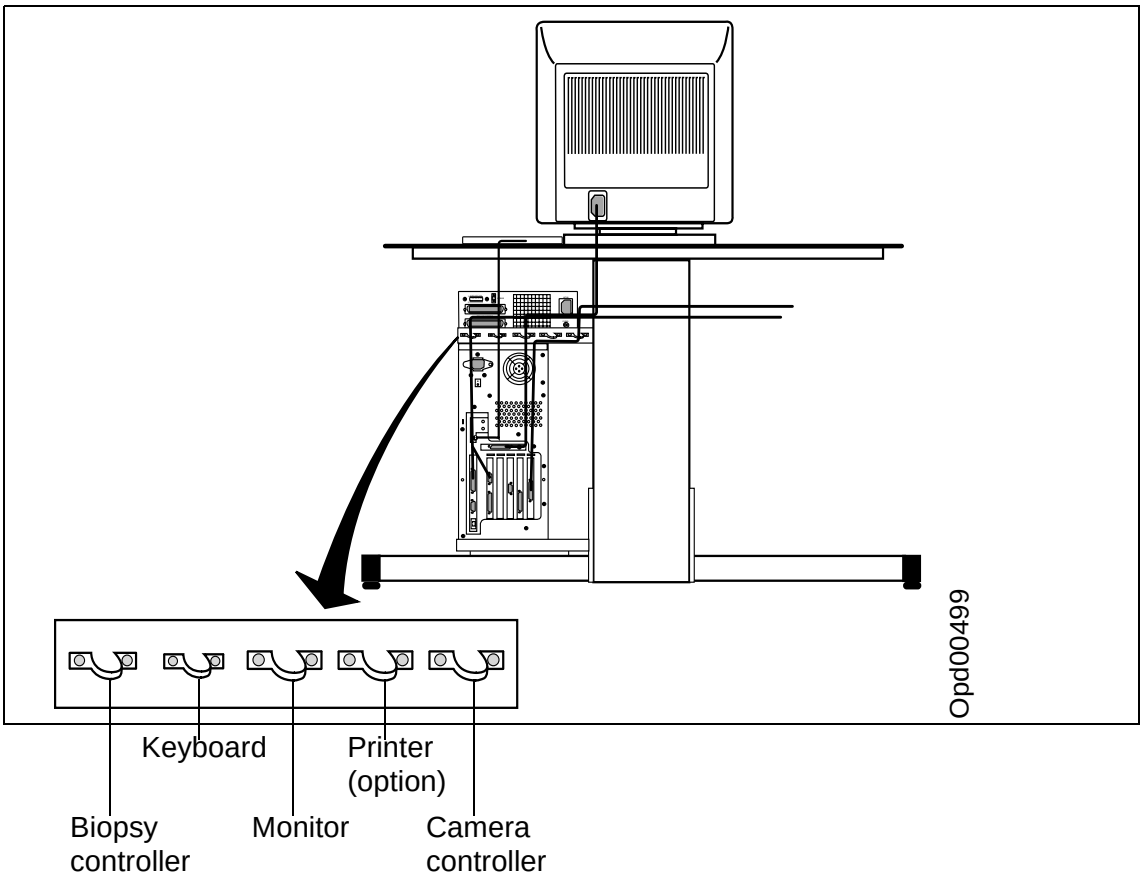


Fig. 26

Functional test (workstation table)

Before the installed workstation table (option) is handed over to the customer, check that the workstation table can be vertically adjusted between the highest and lowest possible positions properly and safety.

General

The following procedures shall be performed:

- Starting up the workstation, see Page 6 - 2
- Country settings,
  see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Test of units,
  see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- CCD camera calibration,
  see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Calibration of the biopsy unit,
  see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Verifying the calibration of the biopsy unit,
  see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Check of Opdima® AEC,
  see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Check of resolution,
  see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Activate DICOM (optional),
  see DICOM option in chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Network settings,
  see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Printer setup (optional),
  see Use of printer setup in chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Mounting of covers, see Page 6 - 2
- Protective earth measurement,
  see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Filling in of LINA CARD, see Page 6 - 2
- Performing of DHHS maintenance, see Page 6 - 2

NOTICE **The Opdima® external diaphragm must be used for tests and calibrations involving radiation.**

Starting up the MAMMOMAT

Switch on the MAMMOMAT.

Starting up the workstation and login

The workstation is started according to instructions in Starting up the workstation and login in Supplement to the Instructions for Use MAMMOMAT 3000 - Opdima®.

Use the user name “service” and the password obtained from Siemens service center when entering the system.

To obtain optimal picture, adjust the monitor settings as follow:

Brightness: 50−60

Contrast: 100

Starting up the MO unit

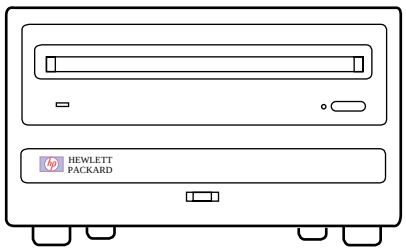


Fig. 1 Magneto-optical drive (HP)

1. Insert the MO disk, type 2.3 GB MO disk
2. For switch settings, SCSI ID and termination see Ultra 10/Ultra 1 MO unit in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Installation of software

The software is installed in the factory before delivery. If the software for any reason needs to be reinstalled, refer to Reinstallation of software in MAMMOMAT 1000/3000/ 3000 Nova - Opdima® Service Instructions.

Mounting of covers

Mount the covers previously removed.

Filling in of LINA CARD

Fill in the LINA CARD and send it to the address stated on the card.

Performing of DHHS maintenance

In the USA, perform maintenance according to MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® DHHS Maintenance

Instructions and fill in MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® Measurement Certificates.

NOTE

The DHHS Maintenance Instructions and Measurement Certificates delivered with the Opdima® also includes the measurements to be performed on the MAMMOMAT. Therefore the DHHS Maintenance Instructions supplied with the MAMMOMAT can be removed. However, the Measurement Certificates supplied with the MAMMOMAT should be kept for future reference, if it contains previous measurement results.

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Chapter	Page	Changes to previous version
0		Chapter completely revised.
1	Page 1 - 2	New paragraph “Text emphasis”.
2	Page 2 - 1	Text change in Caution.
3	Page 3 - 1	Text change in Cautions and Warnings.
4	Page 4 - 2	Notice → Note. Text change in Caution.
5	Page 5 - 1	Notice → Note.
	Page 5 - 2	Text change in Warning.
	Page 5 - 3	Text change in Warning.
	Page 5 - 6	Notices → Notes.
	Page 5 - 7	Notice → Note.
	Page 5 - 8	Notices → Notes.
	Page 5 - 11	Text change in Notice.
	Page 5 - 12	Notices → Notes.
	Page 5 - 13	Text change in Notices.
	Page 5 - 14	Text change in Caution.
	Page 5 - 17	Notice → Caution (text change).
	Page 5 - 20	New step 5. in paragraph “Connecting the workstation”. New figures 21 and 22.
	Page 5 - 21	Notice → Caution
	Page 5 - 22	Text change in Caution.
	Page 5 - 24	Notice → Note, Notice → Caution (text change).
	Page 5 - 25	Notice → Note.
6	Page 6 - 3	Notice → Note.

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150 mm

Drilling template A

Drill five holes with a 5 mm drill according to template A and B.

Place template B underneath template A with no space between them.

Check distances before drilling!

230 mm

OPD00268

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140 mm

195 mm
(to next hole)

OPD00269

Drilling template B

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